

Work Order ID 144412

April 15, 2016 4:00:00 PM

144412

Page 1

Item ID: D117-837-011 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: BK117 Quick Release Heli-Utility-Basket™ Fits LH or RH
 Start Date: 5/30/2016 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 6/17/2016 Req'd Qty: 1.00 *1* Customer:

Reference:

Approvals: Process Plan: *Sut* Date: 20160414 Tooling: Date: Run Start *NR1*
 QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
DSI9706-011	A								
DSI9716	A								
IIN-D117-837	B								
100	Document Control	0.00	DAS 6 9-89		MAY 24 2016	DAS 27 9-89			
100	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile & type labels per PPP D117-837-011 CHG006								MAY 3 2016
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00							
Packaging									

MCS 16-05-25

DAS
28
9-89
MAY 24 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes' ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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Setup Start *NS1*

Stop *NS2*

Customer:

Run Start *NR1*

Stop ***NR2***

120

QC4- 100% Inspect kits for completeness

0.00

120

OC

Memo

0.03

Quality Control

DAS

2

9-89

1110 2 - 2040

130

0.00

130

Packaging

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D117-837-011

Location:

~~SECRET~~

27

9-89

MAY 3 2016

140

QC21- Final Inspection - Work Order Release

0.00

140

QC

Memo

0.10

Quality Control

MAY 27 2016

ML5

Ln 16/05/27.

DQA: _____ Date: _____



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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
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OTHER : ☐					

Picklist Print

April 15, 2016 4:00:00 PM

Page 1

Work Order ID: 144412

144412

Parent Item: D117-837-011

D117-837-011

Parent Item Name: BK117 Quick Release Heli-Utility-Basket™ Fits LH or RH

Start Date: 5/30/2016

Required Date: 6/17/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 13.03.28 NEW ISSUE DD VERF:JLM IPP REV:B
13.06.21 IIN-D117-837 REV.A DD VERF:JFS IPP REV:C 13.12.02
ecn 13-670/ chg002 DD VERF:JLM IPP REV:D 14.07.25 ecn 14-571/
chg003 DD VERF:JLM IPP REV:E 14.07.25 ecn 14-624/ chg004 DD
VERF:JLM IPP REV:F 15.02.02 AS PER DIS9716 DD
VERF:JLM IPP REV:G 15.05.27 now at chg006 DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4911-5 *D4911-5* Bracket		Manufactured	No				Each	6.0000		2			DAS 6 9-89 68-6 82 SWO
				<u>Location</u>				<u>Loc Qty</u>					<u>Loc Code</u>
				ST137				6		2			
				126510				6					
D5203-041 *D5203-041* Strut Assembly		Manufactured	No				Each	0.0000		1			DAS 6 9-89 68-6 82 SWO
										1/44223			
D5204-1 *D5204-1* Bracket		Manufactured	No				Each	19.0000		2			DAS 6 9-89 68-6 82 SWO
				<u>Location</u>				<u>Loc Qty</u>					<u>Loc Code</u>
				ST157				19		2			
				132999				19					
D5205-1 *D5205-1* Bracket		Manufactured	No				Each	6.0000		1			DAS 6 9-89 68-6 82 SWO
				<u>Location</u>				<u>Loc Qty</u>					<u>Loc Code</u>
				ST157				6					
				139876				6					

MAY 24 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

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Work Order ID: 144412

144412

Parent Item: D117-837-011

D117-837-011

Parent Item Name: BK117 Quick Release Heli-Utility-Basket™ Fits LH or RH

Start Date: 5/30/2016

Required Date: 6/17/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1149F0832P

Purchased

No

Each

139.0000

2

DAS

68-6

NAS1149F0832P

WASHER

**

6

82

9-89

SYD

DAS

27

9-89

Location

Loc Qty

Loc Code

ST262

139

18057

139

D117-837-111

Manufactured

No

110

Each

0.0000

1

1

DAS

6

9-89

D117-837-111

BK117 Basket Mounting Provisions

D4784-011

Manufactured

No

110

Each

0.0000

1

1

DAS

6

9-89

68-6

82

SYD

D4784-011

Basket Assembly, Heavy Duty Lid, LH/RH

D4911-1

Manufactured

No

110

Each

9.0000

1

1

DAS

6

9-89

68-6

82

SYD

D4911-1

Bracket

**

DAS

6

9-89

DAS

27

9-89

Location

Loc Qty

Loc Code

ST136

9

121945

5

122824

4

D5106-041

Manufactured

No

110

Each

0.0000

4

4

DAS

6

9-89

68-6

82

SYD

D5106-041

Bracket Assembly

AN3-11A

Purchased

No

110

Each

162.0000

2

2

DAS

6

9-89

68-6

82

SYD

AN3-11A

Bolt

**

DAS

6

9-89

DAS

27

9-89

Location

Loc Qty

Loc Code

ST349

162

m134167

162

2

MAY 24 2016

April 15, 2016 4:00:00 PM

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Misidentified ☐	Past Due ☐																																																																

Picklist Print

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Work Order ID: 144412

144412

Parent Item: D117-837-011

D117-837-011

Parent Item Name: BK117 Quick Release Heli-Utility-Basket™ Fits LH or RH

Start Date: 5/30/2016

Required Date: 6/17/2016

Start Qty: 1.00

Required Qty: 1.00

AN4-12A Purchased No 110 Each 200.0000 4 4

AN4-12A

Bolt

DAS
27
9-89

Location

Loc Qty

Loc Code

FG 10
120423 10
over003 125
m134606 125
ST344 65
m134180 65

DAS
6
9-89

68-6
82
SVC

MS21042-3 MS21042L3 Purchased No 110 Each 18.0000 2 2

MS21042-3

Nut / use MS21042L3

134360

DAS
27
9-89

Location

Loc Qty

Loc Code

ST304 18
M129682 18

DAS
6
9-89

68-6
82
SVC

MS21042L4 Purchased No 110 Each 2,348.000 4 4

MS21042L4

Locknut

DAS
27
9-89

Location

Loc Qty

Loc Code

GA 324
m133769 324
OVER007 1500
m134509 500
m134606 1000
ST303 427
m134055 9
m134502 418
ST305 97
m130922 97

DAS
6
9-89

MAY 24 2016

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
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Description Work Order Deviation		Disposition		Completed By	
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Root Cause		FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
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Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
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Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐				

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D117-837-011

Parent Item Name: BK117 Quick Release Heli-Utility-Basket™ Fits LH or RH

Start Date: 5/30/2016

Required Date: 6/17/2016

Start Qty: 1.00

Required Qty: 1.00

MS21069L3

Purchased

No

110

Each

100.0000

8

8

MS21069L3

ANCHOR NUT

**

134676 x 5

DAS

DAS

28

28

9-89

9-89

BAS

27

9-89

Location

Loc Qty

Loc Code

ST299

100

m134509

100

33

MS27039-1-08

Purchased

No

110

Each

456.0000

8

8

MS27039-1-08

Screw

**

DAS

28

DAS

28

9-89

9-89

BAS

27

9-89

Location

Loc Qty

Loc Code

FP001

83

m128636

83

GA

73

125654

2

m128636

71

ST281

300

m134502

300

8

NAS1097AD34

Purchased

No

110

Each

4,979.000

16

16

NAS1097AD34

RIVET

**

DAS

28

DAS

28

9-89

9-89

BAS

27

9-89

Location

Loc Qty

Loc Code

ST267

4979

M132525

4979

16

MAY 24 2016

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WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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OTHER : ☐																					

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Work Order ID: 144412

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Parent Item: D117-837-011

D117-837-011

Parent Item Name: BK117 Quick Release Heli-Utility-Basket™ Fits LH or RH

Start Date: 5/30/2016

Required Date: 6/17/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1149D0416J

Purchased

No

110

Each

4,261.000

8

8

NAS1149D0416.I

WASHER

DAS
28
9-89

DAS
27
9-89

Location

Loc Qty

Loc Code

GA

237

m131511

237

ST260a

1984

m131511

1984

ST264

2040

m131511

2040

2

NAS1149F0332P

Purchased

No

110

Each

1,915.000

2

2

NAS1149F0332P

Washer

DAS
28
9-89

DAS
27
9-89

Location

Loc Qty

Loc Code

GA

312

m133709

312

ST262

1603

m134134

103

m134257

1500

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td style="border: none;"></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																															
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DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D117-837 REV. B AND
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D117-837 REV. 1
REF. TCCA STC: SH13-22
REF. FAA STC: SR03353NY

1.0 Purpose

The purpose of this Dart Service Instruction (DSI) is to provide instructions to replace the D4911-3 Bracket with a D4911-5 Bracket for customers who already have D117-837-011 at CHG 002 or CHG 003. The D4911-5 Bracket will better distribute the drag load from the D117-837-011 Heli-Utility-Basket to the airframe in flight.

2.0 Removal of D4911-3 Bracket

- 2.1 For D117-837-011 Heli-Utility-Baskets at CHG 003, temporarily remove the D4794-043 Strut Assy from the D4911-1/-3 Brackets by disconnecting 2x MS17984-C405 quick release pin.
- 2.2 For D117-837-011 Heli-Utility-Baskets at CHG 002, temporarily remove the D4794-041 Strut Assy from the D4911-1/-3 Brackets by disconnecting AN4-7 bolts and associated Hardware from both ends of D4794-041 Strut Assy.
- 2.3 Remove the D4911-3 Bracket from airframe by removing 2x MS27039-1-08 Screws and 2x NAS1149F0332P washers.
- 2.4 Inspect the underlying aircraft structure for damage. If cracking/buckling of the aircraft structure is observed, repair per BK117 Aircraft Maintenance Manual Chapter 21-1.

3.0 Installation of D4911-5 Bracket

- 3.1 Temporarily remove LH/RH side cabin outboard floor panels as applicable.
- 3.2 Using D4911-3 Bracket as a template, transfer 2x $\varnothing 0.196$ " (#9 drill) holes from D4911-3 to new D4911-5 Bracket as shown in Figure 1.
- 3.3 Using the D4911-5 as a template, remove two rivets at STA 156.3 (3970) under the D4911-5 Bracket. Transfer drill these rivet holes to the D4911-5 Bracket as shown in Figure 1. Enlarge rivet holes to $\varnothing 0.196$ " (#9 drill) in the aircraft rib and on the D4911-5 Bracket. Transfer $\varnothing 0.098$ " (#40 drill) for MS21069L3 anchor nut and c/sink/dimple holes for NAS1097AD3-(4) rivet as shown in Figure 2. Deburr and touch-up aircraft holes with Alodine 1200/1201 per MIL-C-5541.
- 3.4 Install 2x MS21069L3 anchor nuts using NAS1097AD3-(4) rivets as shown in Figure 2.
- 3.5 Install D4911-5 Bracket into the aircraft ribs using 4x MS27039-1-08 screws and 4x NAS1149F0332P washers as shown in Figure 1. Torque screws to 20-25 in-lbs (2.3-2.8 N-m).
- 3.6 For D117-837-011 Heli-Utility-Baskets at CHG 003, install D4794-043 Strut Assy into D4911-1/-5 Brackets by connecting 2x MS17984-C405 quick release pin per ICA-D117-837 Rev.1.
- 3.7 For D117-837-011 Heli-Utility-Baskets at CHG 002, install D4794-041 Strut Assy into D4911-1/-5 Brackets by installing AN4-7 bolt, 2x NAS1149F0463P washer, AN310C4 nut, MS24665-151 cotter pin in both ends of D4794-041 Strut Assy per ICA-D117-837 Rev.0.
- 3.8 Re-install LH/RH side cabin outboard floor panels as applicable.
- 3.9 Repeat steps 3.1 to 3.8 for opposite side of the aircraft if the aircraft has been configured with basket provisions on both sides.

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DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO #01-O-01

APPROVED

BY: 
D. SHEPHERD (DE #02)

DATE: 14.09.03
CERT. NO.: SH13-22
ISSUE NO.: 1

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A	NEW ISSUE	RF	14.09.03
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	HS	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9706	SHEET 1 OF 3
APPROVED		TITLE	SCALE
DE APPR.		BRACKET MODIFICATION	NTS
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4.0 Parts List

For D117-837-011 Heli-Utility-Baskets @ CHG 004, the Parts List in ICA-D117-837 and IIN-D117-837 should be updated as follows:

IS

Qty -011	Part Number	Description
X	D117-837-011	HELI-UTILITY-BASKET, LH/RH
2	D4911-5	BRACKET (REPLACES D4911-3)
8	MS21069L3	ANCHOR NUT
8	MS27039-1-08	SCREW
16	NAS1097AD3-4	RIVET
10	NAS1149F0332P	WASHER

WAS

Qty -011	Part Number	Description
X	D117-837-011	HELI-UTILITY-BASKET, LH/RH
2	D4911-3	BRACKET
4	MS21069L3	ANCHOR NUT
4	MS27039-1-08	SCREW
8	NAS1097AD3-4	RIVET
6	NAS1149F0332P	WASHER

For D117-837-011 Heli-Utility-Baskets @ CHG 002 or CHG 003, the DSI 9706-011 Basket Modification Kit is available from Dart.

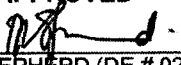
Qty -011	Part Number	Description
X	DSI 9706-011	BRACKET MODIFICATION KIT
2	D4911-5	BRACKET
8	MS21069L3	ANCHOR NUT
8	MS27039-1-08	SCREW
16	NAS1097AD3-4	RIVET
8	NAS1149F0332P	WASHER

5.0 Weight & Balance

This DSI has a negligible effect on Weight & Balance

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BRANCH
DAO # 01-O-01

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DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
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CHECKED	HS	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9706	SHEET 2 OF 3
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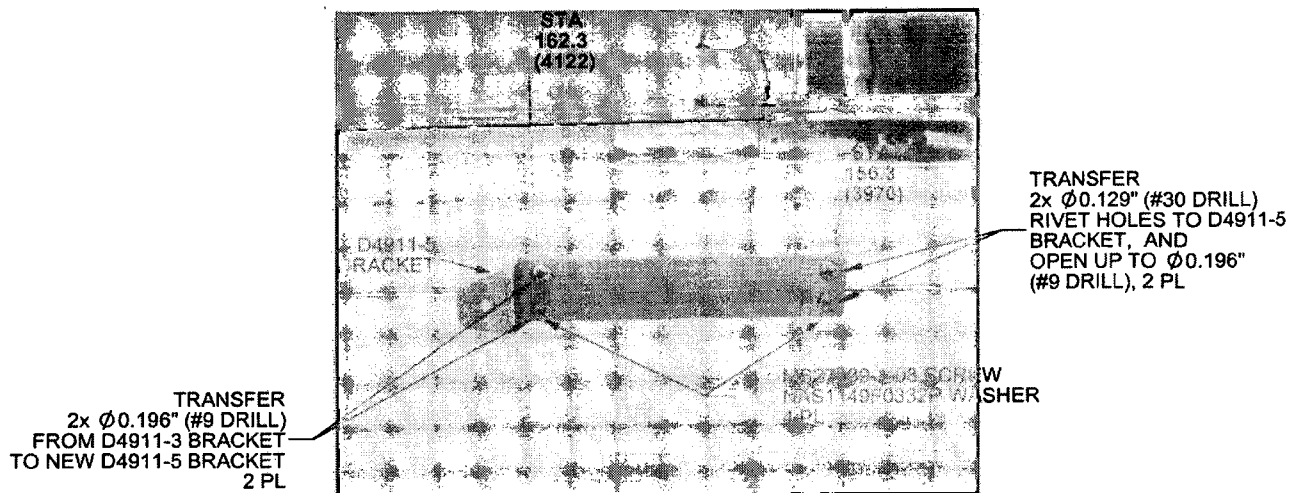


FIGURE 1. D4911-5 BRACKET INSTALLATION
(RH INSTALLATION SHOWN, LH OPPOSITE)

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CHECKED	HS	DRAWING NO.	REV. A
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DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D117-837 REV. B AND
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D117-837 REV. 1
REF. TCCA STC: SH13-22
REF. FAA STC: SR03353NY

1.0 Purpose

The purpose of this Dart Service Instruction (DSI) is to provide instructions to relocate and replace the basket strut assembly on the D117-837-011 Basket Installation for improved reliability in service. The new D5203-041 Strut Assy, D5204-1 Bracket and the D5205-1 Bracket replace the old D4794-043 Strut Assy and D4911-1/-5 Brackets for customers who have D117-837-011 Heli-Utility-Basket at CHG 002 thru CHG 004. The D5204-1 Bracket attaches to the fwd crosstube hardpoint bolt in order to move the drag load away from the aircraft skin structure.

2.0 Permanent Removal of D4911-1/-3/-5 Brackets

- 2.1 For D117-837-011 Heli-Utility-Baskets at CHG 003, remove and discard the D4794-043 Strut Assy by disconnecting 2x MS17984-C405 quick release pin.
- 2.2 For D117-837-011 Heli-Utility-Baskets at CHG 002, remove and discard the D4794-041 Strut Assy by disconnecting AN4-7 bolts and associated Hardware from both ends of D4794-041 Strut Assy.
- 2.3 For D117-837-011 Heli-Utility-Baskets at CHG 003. Discard the D4911-3 Bracket from airframe and reinstall 2x MS27039-1-08 Screws and 2x NAS1149F0332P washers.
- 2.4 For D117-837-011 Heli-Utility-Baskets at CHG 004. Discard the D4911-5 Bracket from airframe and reinstall 4x MS27039-1-08 screws and 4x NAS1149F0332P washers.
- 2.5 Repeat steps 2.3 to 2.4 for opposite side of the aircraft if the aircraft has been configured with basket provisions on both sides.
- 2.6 Remove the D4911-1 Bracket and associated hardware from the basket.
- 2.7 Inspect the underlying aircraft structure for damage. If cracking/buckling of the aircraft structure is observed, repair per BK117 Aircraft Maintenance Manual Chapter 21-1.

3.0 Installation of D5203-041 Strut Assy (RH strut installation shown, LH similar)

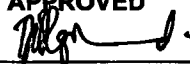
- 3.1 Remove the RH fwd crosstube aft p/n 105-50001.33 stepped washer (item 380) and replace with D5204-1 Bracket and NAS1149F0832P washer. Reinstall nut and torque per Aircraft Maintenance Manual. Reinstall split pin per Figure 1.
- 3.2 Install D5205-1 Bracket and associated hardware at basket rib shown in Figure 3.
- 3.3 Install D5203-041 Strut Assy onto D5204-1 Bracket and D5205-1 Bracket by connecting 2x MS17984-C405 Quick Release Pins as shown in Figures 2 and 3. Make adjustments to the AN665-34R threaded clevises and lock with NAS509-4C jam nuts. Secure the NAS509-4C jam nuts using lock wire per AC 14.13 or MS33540. After adjustment, use lockwire in the hole of the AN665-34R clevises to check for proper engagement of threads. It is acceptable to flip MS17984-C405 Quick Release Pin orientation as shown in Figures 2 and 3 to facilitate for suitable D5203-041 Strut Assy installation.
- 3.4 Repeat step 3.1 for opposite side of the aircraft if the aircraft is to be configured with basket provisions on both sides.

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DAO # 01-O-01

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BY: 
D. SHEPHERD (DE # 02)

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A	NEW ISSUE	RF	15.01.06
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
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CHECKED	HS	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9716	SHEET 1 OF 4
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4.0 Parts List

For D117-837-011 Heli-Utility-Baskets @ CHG 005, the Parts List in ICA-D117-837 and IIN-D117-837 (as modified per DSI 9706 Rev. A) should be updated as follows:

Qty -011	Part Number	Description
X	D117-837-011	HELI-UTILITY-BASKET, LH/RH
1	D4784-011	BASKET ASSEMBLY, HEAVY DUTY, LH/RH
4	D5106-041	BRACKET ASSY
1	D5203-041	STRUT ASSY (REPLACES D4794-043)
2	D5204-1	BRACKET
1	D5205-1	BRACKET
2	AN3-11A	BOLT
4	AN4-12A	BOLT
2	NAS1149F0332P	WASHER
8	NAS1149F0416P	WASHER
2	NAS1149F0832P	WASHER
2	MS21042L3	NUT
4	MS21042L4	NUT

For D117-837-011 Heli-Utility-Baskets @ CHG 002 thru CHG 004, the DSI 9716-011 Strut Relocation Kit is available from Dart.

Qty -011	Part Number	Description
X	DSI 9716-011	STRUT RELOCATION KIT
1	D5203-041	STRUT ASSY (REPLACES D4794-043)
2	D5204-1	BRACKET
1	D5205-1	BRACKET
2	AN3-11A	BOLT
2	NAS1149F0332P	WASHER
2	NAS1149F0832P	WASHER
2	MS21042L3	NUT

5.0 Weight & Balance

This DSI has a negligible effect on Weight & Balance

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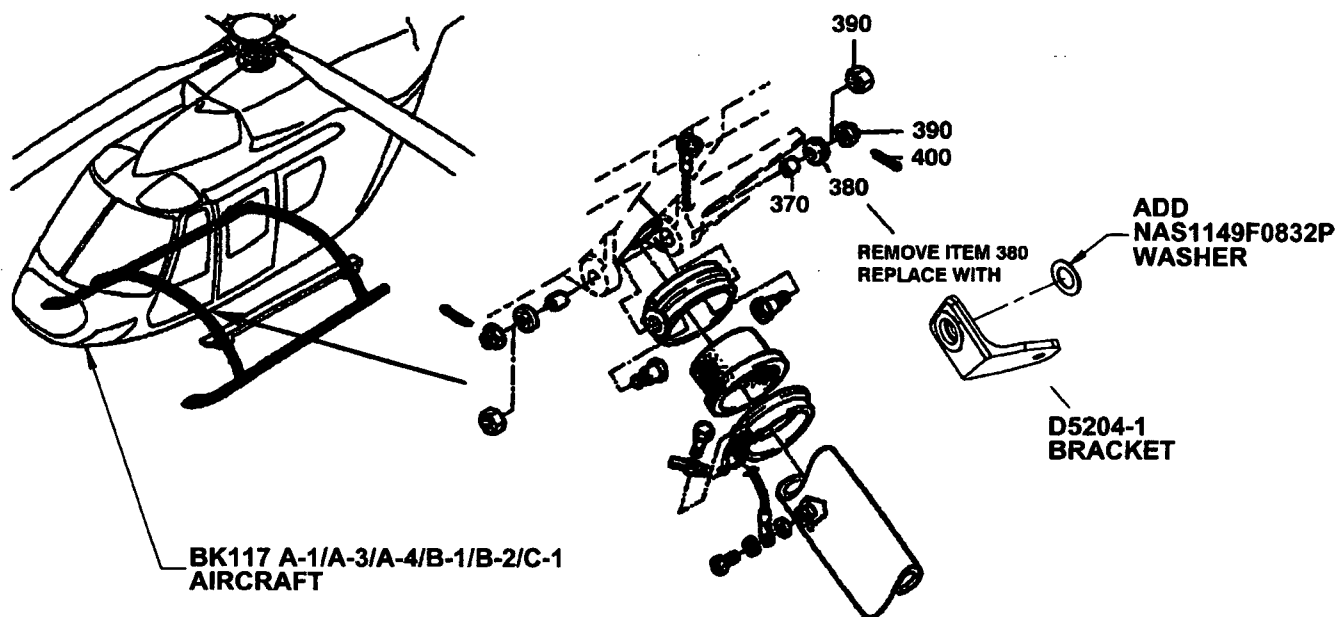


FIGURE 1. D5204-1 BRACKET INSTALLATION
(LH INSTALLATION SHOWN, RH OPPOSITE)

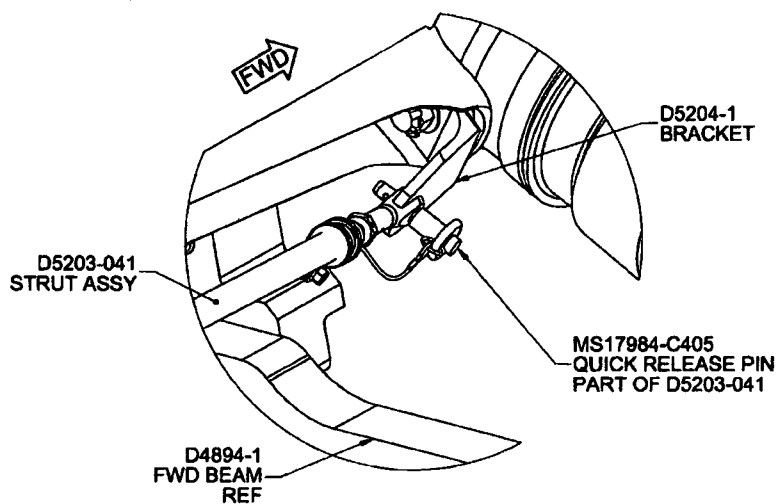


FIGURE 2. D5204-1 BRACKET INSTALLATION
(RH INSTALLATION SHOWN, LH OPPOSITE)
(BASKET & AIRCRAFT SKIN NOT SHOWN FOR CLARITY)

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AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: *D. Shepherd*
D. SHEPHERD (DE # 02)

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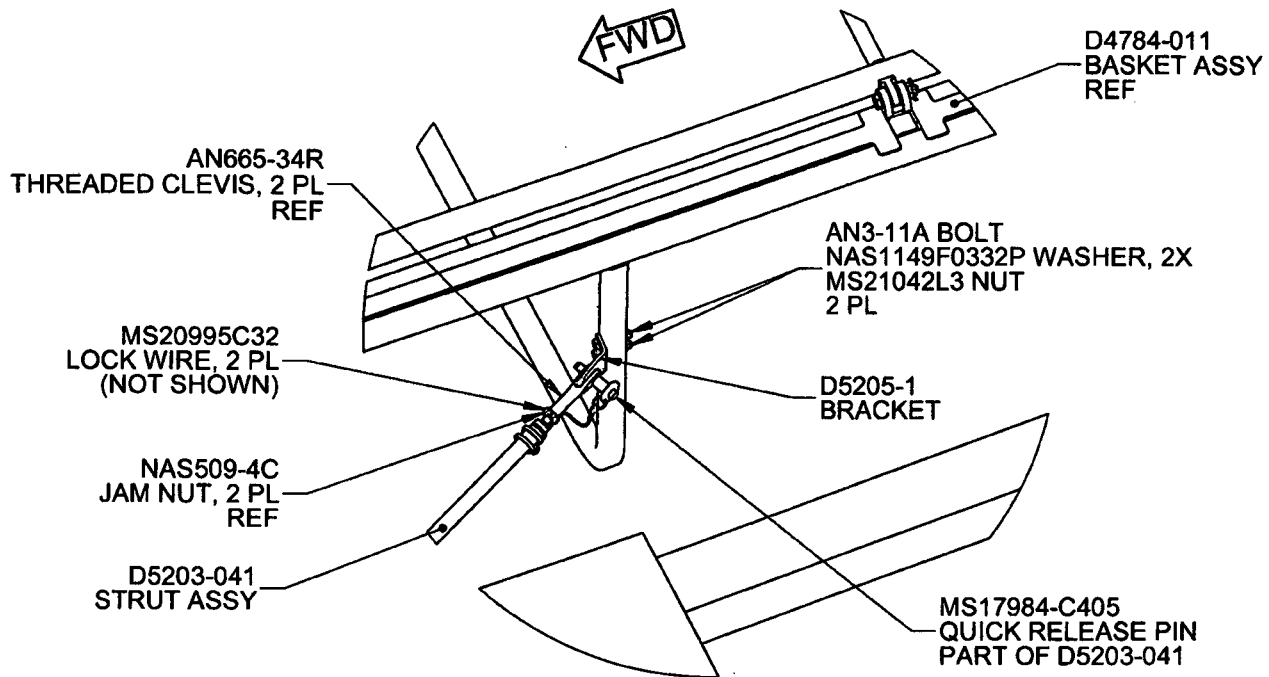


FIGURE 3. D5205-1 BRACKET INSTALLATION
(RH INSTALLATION SHOWN, LH OPPOSITE)

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